

# AWI Quarterly

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## SPOTLIGHT

### Making Life Easier for Rodents and Rabbits in Laboratories

*Refinements for Rodents and Rabbits in Research Laboratories* will be rolling off the presses soon. AWI will introduce the book—an update of a previous volume—at the 74<sup>th</sup> Annual Symposium of the American Association for Laboratory Animal Science in Nashville this November. While there, we will be taking book orders from animal care personnel and others seeking information on proven strategies for implementing quality-of-life improvements for rodents and rabbits in laboratories.

Rodents and rabbits account for more than 95 percent of all mammals used in research, underscoring the importance of advancing their welfare. To facilitate the implementation of improvements for these animals, the new book summarizes

the scientific literature on refinements to their care and use. The goal is to synthesize the knowledge gained from these studies into an evidence-based, user-friendly resource on how to safeguard and promote the welfare of rodents and rabbits in laboratories.

The book summarizes approximately 600 scientific articles published since the year 2010. It is organized into sections focused on key topics related to the care and use of these animals, including Environmental Enrichment, Human-Animal Interactions, Colony Management, Housing, Social Housing, Rearing and Weaning, Welfare Assessment, and Experimental Use (including refinements to biological sampling and peri-operative care). Each section begins by describing why this topic is important and how it impacts both animal welfare and research outcomes. This is followed by summaries of the scientific literature regarding this topic. The sections are organized by species (mice, rats, other rodents, rabbits), with a Key Takeaways summary box provided within each section for quick reference.

Written by two laboratory rodent welfare specialists—Dr. Anna Ratuski and AWI's Dr. Joanna Makowska—this book will be a useful resource for anyone working with or caring for rodents and rabbits in a research setting. 🐾

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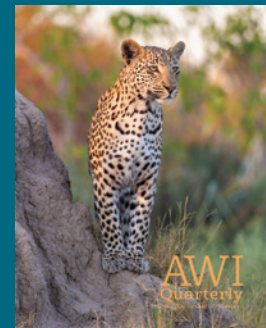
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### ABOUT THE COVER

A leopard stands watch in Botswana’s Jao Reserve. Leopards are listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), meaning international commercial trade in the species is prohibited. Decisions on whether and how to protect a particular species under CITES are informed by scientific evaluations conducted by the CITES Animals Committee. In July, AWI participated in the 33<sup>rd</sup> meeting of the Animals Committee in Geneva. See page 14 for our report on the meeting’s outcomes and their potential impact on protections for animals in trade going forward. Photograph by Suzi Eszterhas/ Minden Pictures.

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*Wild animals don't belong in circuses: This year, Maryland and Massachusetts became the latest states to ban the use of bears, big cats, and other captive wild animals in traveling shows.*

to cruel training methods to force them to perform, and may be beaten, harshly restrained, and sedated by their handlers. Moreover, placing large, unpredictable wild animals so close to human audiences poses a significant public safety risk; there have been numerous tragic incidents resulting in injuries and deaths to circus animals, trainers, and audience members. Eleven states now restrict or ban wild animal acts.

## ADVANCING ANIMAL PROTECTION IN OCEAN POLICY

In June, AWI staff members attended Capitol Hill Ocean Week (CHOW), hosted by the National Marine Sanctuary Foundation in Washington, DC. CHOW—which brings together scientists, policymakers, scholars, businesses, and conservation leaders—is the nation's premier ocean policy conference. This year's theme was leadership. Over multiple days, participants explored both traditional and novel ways that local, regional, national, and international communities are adapting to changing ocean ecosystems, mitigating marine biodiversity loss, reducing vessel strikes on marine wildlife, promoting sustainable fisheries, and nurturing the bond between humans and the natural world.

A panel discussion of key importance to AWI's work to save the critically endangered North Atlantic right whale (NARW) included fishers reporting on their success deploying ropeless (or "on-demand") fishing gear. Ropeless gear can help prevent deadly

entanglements of NARW and other marine species. The fishers provided crucial insights into overcoming technological challenges and thoroughly addressed concerns from colleagues who might be reluctant to give up their fishing ropes and buoy lines. AWI staffers also met with members of Congress during the conference to brief them on the urgent need not only to support adoption of ropeless fishing gear but also to push for implementation of long-awaited vessel strike reduction measures in NARW habitat.

## TWO MORE STATES BAN WILD ANIMAL CIRCUS ACTS

In May, Maryland Gov. Wes Moore signed SB 547/HB 379 into law, prohibiting the use of elephants, big cats, bears, and nonhuman primates in traveling shows and circuses in the state. In August, Massachusetts Gov. Maura Healey signed a similar bill into law: H 4915 (which also includes giraffes in the ban). Captive wild animals in circuses endure countless hours confined to cramped cages and trailers as they are hauled from show to show. They are often subjected

## HUMANE TRANSPORT OF FARMED ANIMALS ACT INTRODUCED

In June, Rep. Dina Titus (D-NV) introduced the Humane Transport of Farmed Animals Act (HR 8699) to improve conditions for livestock transported across the United States. The bill would prohibit interstate transport of livestock who are unfit for travel—such as newborns with unhealed navels; cows in late-stage pregnancy or who recently gave birth; and animals who are blind, sick, injured, weak, or disabled. HR 8699 would also require federal officials to develop a process to enforce the Twenty-Eight Hour Law—the only federal law designed to protect livestock being moved across the country—which has gone largely unenforced for decades. AWI recently filed a rulemaking petition with the USDA requesting that it prohibit the interstate shipment of newborn calves and other animals who are sick, injured, or disabled. In the petition, AWI cited the results from its investigation last year, which found that dairy calves as young as 2 to 3 days old are routinely subjected to long, arduous journeys under harsh conditions.

## ANIMAL WELFARE IN UPCOMING APPROPRIATIONS

Spending bills for the 2025 fiscal year are shaping up in Congress, and AWI is working to ensure animal welfare measures are included. The Senate Agriculture Appropriations report includes first-of-its-kind language directing the US Department of Agriculture to prioritize research and development of nitrogen-based methods of “depopulation” (the killing of animals en masse, usually to control serious disease outbreaks). These methods, used in the United Kingdom, European Union, and Canada, have shown considerable promise in minimizing animal distress and producing a rapid loss of consciousness. In stark contrast, during the current avian influenza outbreak in the United States, the use of ventilation shutdown plus heat (VSD+) has become the norm for depopulating flocks, despite the enormous and prolonged suffering this method entails.

Both the House and Senate Agriculture Appropriations bills retain provisions that block horse slaughter facilities from operating within the United States for another year. Unfortunately, both bills fall short of the administration’s funding request for Horse Protection Act (HPA) enforcement to combat soring abuse in Tennessee walking horse shows. Shortchanging enforcement comes at an inopportune time, as the USDA recently finalized historic HPA regulations—long advocated by AWI—designed to bolster enforcement by transferring compliance monitoring from industry insiders to USDA inspectors and USDA-trained independent inspectors.

*The House Interior Appropriations report for fiscal year 2025 directs the BLM to use a portion of its Wild Horse and Burro Program budget on proven, humane fertility control.*

On the wild horse front, the House Interior Appropriations report directs the Bureau of Land Management to use a portion of its Wild Horse and Burro Program budget on proven, humane fertility control methods that, if fully embraced, could break the costly cycle of managing wild horse populations via brutal helicopter roundups and mass removals from the range. The bill also continues protections against slaughter and other forms of lethal control for wild horses and burros.

## HORSERACING SAFETY MEASURES SURVIVE CHALLENGE

In June, the US Supreme Court declined to take up a case involving a challenge to the oversight authority of the federal Horseracing Integrity and Safety Authority (HISA) by the states of Oklahoma, West Virginia, and Louisiana; their respective racing commissions; and other industry groups. Consequently, a ruling against the challenge by the US Court of Appeals for the Sixth Circuit will stand. In its ruling, the Sixth Circuit affirmed

the constitutionality of the Horseracing Safety and Integrity Act, which established HISA to combat widespread doping and improve racetrack safety in US thoroughbred racing. AWI worked to get this legislation passed in 2020 and provided regulatory comments to the Federal Trade Commission as new rules were developed.

Legal challenges from certain segments of the racing industry are still pending in the Fifth and Eighth Circuits, but the Supreme Court’s move strikes a serious blow to those seeking to dismantle comprehensive reforms that improve the safety of thoroughbred racing.

## HAWAI’I SAYS “DON’T” TO DIY PET SURGERY

Hawai’i Gov. Josh Green signed HB 1527 in July, finally closing a loophole in the state’s cruelty statute that allowed any person (or unlicensed veterinarian) to perform surgery on a companion animal, including ear cropping and tail docking. This new law will prevent needless suffering and allow for significant felony-level penalties for offenders.



ELIZABETH BOEHM/DANITA DELMONT



# CALLING OUT CRUELTY:

## AWI Asks USDA to Help States Clamp Down on Animal Abuse in Slaughter Plants

**K**icked, beaten, exposed to extreme temperatures and weather—all too often, animals in slaughter plants are severely mistreated before they are killed. In many cases, such incidents could be prosecuted under state animal cruelty laws, but the US Department of Agriculture does little to notify or encourage action by state law enforcement officials.

Even when state prosecutors become aware of such abuse, they sometimes choose not to act, under the mistaken belief that the USDA has exclusive jurisdiction. As a result, state criminal charges have rarely been brought for abuse of livestock (e.g., cattle, pigs) at slaughter, and never, that AWI is aware of, for mistreatment of poultry in federal slaughterhouses.

To correct this, AWI worked with Animal Partisan, another animal protection organization, to petition the USDA's Food Safety and Inspection Service (FSIS) to take two actions: first, to issue a public notice clarifying the circumstances under which federal laws such as the Federal Meat

Inspection Act (FMIA) and Poultry Products Inspection Act (PPIA) preclude enforcement of state animal cruelty laws and when they do not; second, that FSIS personnel more effectively communicate and cooperate with state officials in the enforcement of animal cruelty laws applicable to animals at slaughter.

The petition acknowledges the complex interplay between federal slaughter inspection and state animal cruelty laws. Under the US Constitution, federal law is the “supreme law of the land”; where state and federal laws conflict, federal law normally governs (i.e., “preempts” state law). In addition, the FMIA and the PPIA contain specific preemption clauses that prohibit states from imposing certain additional or different requirements on slaughterhouses. Consequently, the application of some state animal cruelty laws to the treatment of animals at slaughter may be precluded.

Courts have made clear, however, that these complexities do not categorically exclude animals in slaughterhouses from all state-level protections. The key determinant is

whether Congress intended to preempt state law. This intent is typically demonstrated by either an express preemption clause (specifying what state protections are—and by exclusion are not—foreclosed) or by a regulatory scheme so comprehensive that it’s clearly intended to be exclusive.

In 2012, for example, the US Supreme Court found that a California law requiring nonambulatory pigs (those unable to stand or walk) to be euthanized rather than processed for slaughter was expressly barred by the FMIA’s preemption provision that prohibited additional or different state requirements “with respect to premises, facilities and operations.” Yet the court noted that a state law imposing the *same* requirements as the FMIA would *not* be preempted by this language—allowing state enforcement when federal action is absent. As the court explained, “States may exact civil or criminal penalties for animal cruelty or other conduct that also violates the FMIA. ... Although the FMIA preempts much state law involving slaughterhouses, it thus leaves some room for the States to regulate.”

In 2017, the Ninth Circuit Court of Appeals illuminated another scenario in which a state animal welfare law could escape preemption. The court ruled that a different California statute—this one prohibiting the force feeding of birds to produce foie gras—was not preempted because the PPIA did not expressly bar such a regulation. The court found, rather, that the PPIA “contemplates extensive state involvement” because it explicitly allows states to impose certain poultry inspection requirements. Moreover, the California law “does not stand as an obstacle to accomplishing the PPIA’s purposes.” Thus, the force-feeding prohibition was not precluded.

This latter ruling affirmed the fact that—notwithstanding the existence of federal slaughter laws—states can enforce animal cruelty laws in a number of slaughter-related situations. It also offered a clear indication that states may actually have more room to safeguard the welfare of poultry than they have for livestock. This is because, compared to the FMIA (which incorporates the Humane Methods of Slaughter Act, and thus contains a number of humane handling requirements for livestock at slaughter), the PPIA imposes very few requirements relating to the humane treatment of poultry processed for slaughter, and it permits state restrictions in a number of settings.

Because of the broader leeway afforded state laws protecting poultry, and because of the vast number of birds slaughtered each year (about 9.7 billion in 2023, compared to about 160 million cattle, hogs, and other mammals), AWI submitted comments in support of the Animal Partisan petition that emphasized the especially urgent need for the FSIS to take action regarding the mistreatment of poultry in slaughter plants.



MERCY FOR ANIMALS

*Application of state anti-cruelty laws could help stem the abuse of farmed animals in slaughterhouses. State officials often assume, however, that they lack the authority to intervene.*

Our comments described examples spanning the last two decades of atrocious handling of chickens, turkeys, and ducks in slaughter facilities, including live birds having their heads, legs, and wings ripped off; being stomped to death or run over by vehicles; and being buried alive under piles of other birds in trash bins and condemn barrels. Unknown thousands of other birds entered scald tanks while still breathing, leaving them to drown in filthy, scalding water.

We explained that—despite the critical importance of investigating such incidents for potential violations of state animal cruelty laws—the FSIS appears to have done next to nothing to communicate such incidents to law enforcement. For example, each year from 2014 through 2022, hundreds of US slaughter plants collectively processed billions of birds. To AWI’s knowledge, during this entire period the only steps the FSIS took to notify states of egregious instances of abuse were to issue 13 “letters of concern”—slaps on the wrist that carried no legal consequence and were addressed to state veterinarians or state boards of animal health; none were sent to law enforcement or prosecution offices.

The FSIS must do more to protect both poultry and livestock. It should start by clarifying that the FMIA and PPIA do not prevent local law enforcement and prosecution offices from enforcing state animal cruelty statutes when they are not in fact preempted by federal law, and by further clarifying the circumstances where state action is permitted. The agency must also call out cruelty when it sees it, by significantly improving and increasing its communication with state officials and notifying them when potential criminal mistreatment occurs. 🐾

## AVMA Should Aver: Cramped Crates No Place for Pregnant Pigs

The American Veterinary Medical Association develops and endorses dozens of policies on a range of issues, including several that relate to farmed animals. These policies are important because, in addition to functioning as the organization's guiding principles, they often influence regulatory bodies and the animal agriculture and food industries.

This year, the AVMA's policy on pregnant sow housing is being reviewed by the association's Animal Welfare Committee. Dr. Gwendy Reyes-Illg, the veterinary medicine consultant for AWI's Farmed Animal Program, submitted extensive comments laying out scientific and ethical arguments for why the AVMA should revise its policy to recommend higher-welfare group housing systems over inhumane gestation crates.

Gestation crates (aka individual stalls) are metal enclosures, typically about 2 feet wide and 7 feet long, used to confine most pregnant pigs in the United States from the time their piglets are forcibly weaned (two to four weeks after birth) until they are ready to give birth to their next litter—which, in industrial settings, ends up being most of a breeding sow's life.

Pregnant sows are quite large (typically 500–800 pounds), so this confinement essentially immobilizes them, prevents most of their natural behaviors (including walking, running, nest-building, rooting, and foraging), and causes an array of physical and psychological problems. Most crate-confined sows develop frequent stereotypies (repetitive, functionless movement patterns, like bar-biting) and/or “low responsiveness,” a syndrome similar to severe clinical depression in humans.

The comments argue that, given the AVMA's stated values—particularly in light of research that has advanced our understanding of pigs' mental capacities and welfare needs, as well as shifts in societal values since the current policy was passed—the association should encourage a transition from gestation crates to group housing. Further, since keeping pigs in groups does not, in and of itself, guarantee better welfare, the AVMA should provide substantive, evidence-based



ARTEM PO

recommendations regarding how to maximize welfare in group housing systems.

Health and welfare problems caused by confinement to gestation crates generally cannot be ameliorated by changes in management or crate design. Conversely, the potential welfare hazards associated with group housing systems can often be avoided. When pregnant pigs are kept in groups, top welfare concerns include inter-pig aggression and lameness. However, both problems can be mitigated by sufficient space (especially in the first few days after unfamiliar pigs are mixed), appropriate flooring and bedding, proper pen design and layout, and limitations on group size and composition.

It's also crucial to mitigate chronic hunger, a neglected welfare problem experienced by most pregnant pigs regardless of housing system. Because they have been genetically selected for “production” characteristics such as rapid weight gain, mother pigs provided with unlimited amounts of energy-dense feed develop obesity and attendant health problems; therefore, sows are typically fed less than half of what they need for satiety. Measures to alleviate chronic hunger, such as providing roughage (e.g., straw), satiety-promoting feeds, and foraging opportunities via access to pasture, also reduce certain stereotypies, inter-pig aggression, and resulting injuries.

AWI anticipates a decision about the policy next year. The comments are posted on our website at [awionline.org/policy-efforts-farm](http://awionline.org/policy-efforts-farm).



## HAWAI'I ADOPTS RULES TO PROTECT ANIMALS AT SEA

In Hawai'i, regulations are now in place to protect cattle, sheep, goats, and other farmed animals transported via barge between the state's islands. Governor Green signed off on the rules nearly a year after the Hawai'i Board of Agriculture voted to approve them. Prior to the board's approval, AWI had provided oral and written testimony and—in partnership with local and national groups—submitted comments in support of the protections.

Among the requirements now in place: Animals must have access to clean water and adequate ventilation in staging areas. They must be loaded last at departure and unloaded first upon arrival at destination ports. On board, they cannot be placed in locations that produce excessive heat or restrict airflow. The new rules also prohibit inter-island transport of injured, ill, lame, blind, unweaned, or late-stage pregnant animals.

## EXPORT FOR SLAUGHTER FROM GREAT BRITAIN BANNED

Following decades of campaigning by animal protection organizations, a ban has been enacted on export of livestock for slaughter from Great Britain to destinations outside Great Britain, Northern Ireland, the Channel Islands, and the Isle of Man. The law, called the Animal Welfare (Livestock Exports) Act, received royal assent in May. It had been introduced in Parliament after the

*Thanks to a new law, livestock can no longer be shipped overseas from Great Britain to foreign destinations for slaughter. Hawai'i, meanwhile, increased protections for livestock barged between the state's islands.*

government invited public input on the issue. An overwhelming 87 percent of those who submitted comments agreed that livestock should not be exported for fattening and slaughter. Before the United Kingdom left the European Union, millions of animals were exported annually for such purposes, enduring grueling overseas journeys along the way. Great Britain becomes the second country to ban live export for slaughter, following New Zealand's landmark 2023 legislation to that effect.

## FIRE CODE ADDS SPRINKLER REQUIREMENT FOR LARGER ANIMAL OPERATIONS

The National Fire Protection Association (NFPA) Technical Committee on Animal Housing—the body that oversees development and revisions of the Fire and Life Safety in Animal Housing Facilities Code (NFPA 150)—has taken a monumental step toward strengthening protections for farmed animals by requiring sprinkler systems in agriculture facilities housing animals that meet a certain size. Under the new

requirement—approved at the NFPA Technical Meeting in June—beginning in 2025, newly built commercial agriculture operations of a size sufficient to be considered “medium concentrated animal feeding operations” (as defined by the US Environmental Protection Agency) would be required to install sprinkler systems, unless exempted by a local fire authority. Depending on the species and size of the animals at the farm, this would cover buildings housing anywhere from several hundred to tens of thousands of animals or more.

Unsurprisingly, the animal agriculture industry is fighting vociferously to have the requirement removed prior to finalization of the 2025 code. Industry representatives first filed a motion to have the language stricken, which failed in a vote of 161–210 at the Technical Meeting. In a last-ditch effort, a coalition of industry players led by the National Pork Producers has filed an appeal, which will be heard and voted on by the NFPA's Standards Council at the end of August. AWI plans to provide comments opposing the appeal to help ensure this life-saving requirement is retained.



RICHARD SCHRAMM

# Richard Ellis

Richard Ellis—artist, author, conservationist, and great friend of AWI—died in May at the age of 86. Ellis grew up in Belle Harbor, on the Rockaway Peninsula of Queens, New York, and spent much of his early life swimming in the Atlantic Ocean and drawing its denizens. After obtaining a degree in American civilization from the University of Pennsylvania, he joined the US Army and was posted to Hawai‘i, where he continued his immersive love of the sea.

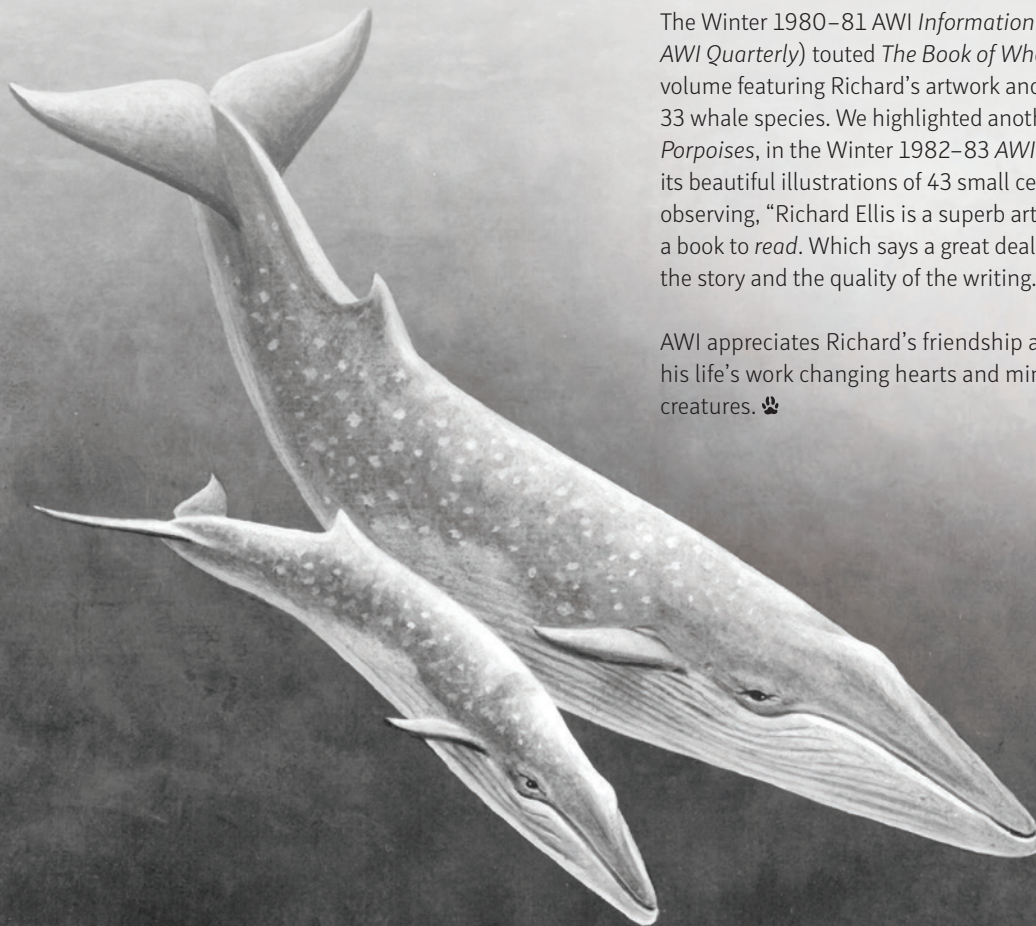
Richard had an extraordinary talent for portraying marine animals in wonderful, photorealistic detail, which he used to inspire the public into wanting to protect them. His artistry led to a long relationship with the American Museum of Natural History, beginning when he was hired as a designer in 1969 and commissioned to create a life-size blue whale model to hang in the museum’s Hall of Ocean Life gallery. Today, that installation remains one of the museum’s most recognized and beloved features.

At the time, however, the lack of good images of living blue whales on which to base his sculpture convinced Richard that to continue portraying marine animals in his art, he needed to see them in their natural habitat—a conviction that led him on numerous adventures around the world. He dove with fish, octopuses, and other sea creatures. He explored great rivers in search of freshwater dolphins, and was one of the first people to encounter great white sharks up close from an underwater cage. Richard eventually wrote and illustrated over two dozen books about marine life, and his artwork and writing received widespread recognition through museum exhibits and publication in the *Encyclopedia Britannica* and prominent magazines such as *National Geographic*, *Audubon*, and *National Wildlife*.

He came to the attention of AWI’s founder, Christine Stevens, in the late 1970s when she was directing AWI’s Save the Whales campaign to protect whales from commercial hunting. She shared Richard’s belief that galvanizing public support was key to saving whales—and this required motivating people to feel a connection to these animals. Christine, therefore, commissioned Richard to create portraits of whales, which AWI used in publications and posters to raise awareness about whales and the threats they faced. Contributors to AWI’s campaign also received prints of Richard’s humpback and sperm whale illustrations.

The Winter 1980–81 *AWI Information Report* (precursor to the *AWI Quarterly*) touted *The Book of Whales*, a newly published volume featuring Richard’s artwork and vivid descriptions of 33 whale species. We highlighted another book, *Dolphins and Porpoises*, in the Winter 1982–83 *AWI Quarterly*, lauding its beautiful illustrations of 43 small cetacean species while observing, “Richard Ellis is a superb artist. Yet this is primarily a book to read. Which says a great deal for the fascination of the story and the quality of the writing.”

AWI appreciates Richard’s friendship and salutes him for his life’s work changing hearts and minds to save marine creatures. 🐾





## IUCN Task Force Tabs 46 Atlantic Areas for Potential Marine Mammal Protection

On May 20, the Marine Mammal Protected Areas Task Force of the International Union for Conservation of Nature (IUCN) announced 46 new candidate Important Marine Mammal Areas (IMMAs) for the North West Atlantic Ocean and Wider Caribbean region. IMMAs are defined as “discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation.” Expert identification of IMMAs makes it easier for governments, intergovernmental organizations, conservation groups, industry, and the general public to prioritize specific geographic areas when considering various conservation measures.

The task force’s announcement followed the 11<sup>th</sup> regional IMMA workshop in Yucatán, México, which AWI supported. Participants in the workshop included 57 scientists and observers from 14 countries who specialize in marine mammals found in the waters of the North West Atlantic Ocean and Wider Caribbean region. At the opening of the workshop, AWI’s Susan Millward and Georgia Hancock provided virtual words of welcome and support for the work of the task force.

Stretching from the tip of southern Labrador in Canada to Venezuela, the North West Atlantic Ocean and Wider Caribbean region encompasses more than a quarter of the Atlantic Ocean. This region is home to populations of both feeding and breeding humpback whales, endangered blue whales, and vulnerable sperm whales; Risso’s, Fraser’s, and common bottlenose dolphins; dwarf sperm whales; and many species of deep-diving beaked whales. Some marine mammals, such as critically endangered North Atlantic right whales and Rice’s whales, are located solely within this region.

Workshop attendees narrowed down the proposals from a list of 235 preliminary areas of interest based on existing Marine Protected Areas, US waters recognized as “Biologically Important Areas,” and areas deemed ecologically or biologically significant under the Convention on Biological Diversity, as well as 57 submissions from marine mammal experts. In addition to identifying 46 candidate IMMAs from this list, the attendees highlighted seven areas of interest for future work and potential candidate IMMA identification. This forward-looking approach is useful because it recognizes locations where experts feel more marine mammal research is needed.

The IMMA Secretariat is now considering candidate IMMA proposals such as the True’s Beaked Whale Aggregation Area, the Terminos Lagoon and St. Vincent-Bequia Channel “Rat Porpoise” Alley, and the Southern Labrador Pack Ice Whelping Area (which, for the first time, would cover polar bears, harp seals, and hooded seals), as well as the first candidate IMMA proposal for Rice’s whale habitat. The final decision on whether these candidates will be designated as full IMMAs is expected later in the year.

The task force’s global IMMA effort began in 2016 and has already identified 280 IMMAs in the South Pacific, Southern, Indian, Southwest Atlantic, and Northeast Atlantic Oceans and the Mediterranean, Black, and Caspian Seas. They can be viewed online via the IMMA e-Atlas on the task force’s website ([marinemammalhabitat.org](http://marinemammalhabitat.org)). AWI has supported the creation of IMMAs since the outset and maintains close professional ties with many members of the task force, which includes scientific representatives from approximately 30 countries. 🐬

## AWI PREPARES FOR IWC69

The 69<sup>th</sup> meeting of the International Whaling Commission (IWC69) will take place in Lima, Peru, this September. The gathering will include representatives from most of the 88 IWC member governments, as well as around 30 nongovernmental organizations from around the world, including AWI.

The IWC established a moratorium on commercial whaling that has been in effect for nearly four decades, and, despite its name, whaling is no longer the only issue occupying the organization. As threats—including bycatch, vessel strikes, pollution, and climate change—have increased, the IWC has evolved from its original exclusive focus on regulating commercial whaling of large whales to developing unrivaled expertise in the conservation of *all* cetaceans, including dolphins and porpoises.

AWI's priority at IWC69 will be to defend the IWC's threat mitigation agenda against potential budget cuts, promote governance reforms to ensure this venerable institution remains fit for purpose, and demand that the three nations (Norway, Iceland, and Japan) still conducting commercial whaling in defiance of the ban are held accountable. Our report on meeting outcomes will appear in the next issue of the *AWI Quarterly*.

*Humpbacks and other whales no longer targeted by commercial whalers are still threatened by human activities. AWI is working to ensure the IWC plays a key role in mitigating these threats.*

## LATEST VAQUITA SURVEY PAINTS GRIM PICTURE

In May, two research vessels embarked on a survey in Mexico's Upper Gulf of California, searching for evidence of the world's rarest marine mammal, the tiny vaquita porpoise. Scientists conducted visual searches and deployed 34 acoustic listening devices to detect the high-pitched clicks unique to the species. Funded by the Mexican government and the Sea Shepherd Conservation Society, the survey covered a larger area than that studied in 2023, when an estimated 8 to 13 individual vaquitas were seen.

Although this latest survey logged more acoustic detections (70 vaquita clicks this year compared to 61 last year), sightings were down: a mere 6 to 8 individuals, by the scientists' estimation. However, all vaquitas spotted, including a yearling, appeared to be healthy. The Mexican government has extended the acoustic survey into July and August, covering a wider area of the species' historical habitat, hoping to find additional vaquitas.

## EXPLORING LIMITED OPTIONS FOR BARATARIA BAY DOLPHINS

A US government workshop was held in late August to discuss options for intervention on behalf of the bottlenose dolphins in Barataria Bay, Louisiana, once a project designed to restore coastal wetlands in the Gulf of Mexico begins operations in a few years. (See *AWI Quarterly*, spring 2023.) Over five decades, sediment-rich Mississippi River water will be diverted into the bay to rebuild land. Doing so, however, will also drastically lower the bay's salinity, which in turn will harm the 2,000 local dolphins, who will eventually sicken and die as their marine home turns fresh.

The workshop brought together experts, including AWI's Dr. Naomi Rose, to consider potential mitigation measures. Unfortunately, this diversion project leaves little anyone can do to save these dolphins' lives. Barataria Bay is their home, and they are unlikely to leave on their own or survive any attempt at relocation to saltier water. As the project takes its inexorable toll on their habitat and health, the only humane option left in the end may be to euthanize suffering individuals.



JOHN



ASSOCIATED PRESS

## Stubborn Whalers Take to Sea Despite Sinking Demand

The start of summer 2024 signaled a fitful continuation of the commercial whaling still conducted by three nations: Iceland, Norway, and Japan.

Two years ago, Iceland killed 148 fin whales, despite having no domestic market for the meat. (Its sole whaling company, Hvalur hf., relies on Japan to buy almost all the fin whales it hunts.) After a series of shocking welfare abuses were documented that year and the next—resulting in a two-month suspension of Hvalur’s whaling license last summer and only 24 whales killed—it was hoped that Iceland’s fisheries minister would not renew the company’s whaling license in 2024. In early June, however, she decided to permit whaling for this summer only and at a lower level than previous years—128 whales compared to the previous quota of 209. At press time, it was not clear if Hvalur would actually hunt this summer. The company’s CEO indicated he intends to sue the Ministry of Food, Agriculture and Fisheries for revenue supposedly lost due to the ministry’s delay in announcing the decision.

Meanwhile, Norway continues to hunt minke whales in defiance of a four-decades-long ban on commercial whaling implemented by the International Whaling Commission (IWC). There is a disturbing lack of welfare monitoring during these hunts: Norwegian whaling vessels used to have inspectors on board; today, not even electronic recording of the operation is required. So far, fewer whales have been killed than at the same time last year. As with Iceland, demand for whale meat is so low in Norway that the largest of

its remaining whalers also depend on exports to Japan (and, sadly, to some extent on curious tourists sampling the meat in shops and restaurants).

After leaving the IWC in 2019, Japan retracted its whaling operation from the high seas to its own territorial waters, where it has taken fewer whales than in recent decades. Despite this, supply continues to surpass demand, and Japan’s whale meat surplus has more than doubled in just five years, reaching an unprecedented 4,800 tons (including 2,000 tons from Iceland) this year.

Despite its precarious financial status, Japan’s last remaining commercial whaling company, Kyodo Senpaku, recently spent more than 7.5 billion yen (~US\$46 million) on a new factory ship (pictured above) and lobbied hard for higher whaling quotas, arguing that a greater economy of scale would finally deliver elusive profits. Disappointingly, the government acquiesced, announcing in early June that the company can start hunting 59 North Pacific fin whales a year. This could add another 1,300 tons annually to Kyodo Senpaku’s glut of whale meat and increase its already considerable debts, while threatening the status of a poorly understood population of whales. It may also land the Japanese government in legal jeopardy: Although no longer a member of the IWC, Japan still has a duty under international law to cooperate with the organization, including consulting with the IWC Scientific Committee on Japan’s whaling—a step it failed to take at the committee’s most recent meeting in May, just weeks before Japan made the new quota announcement. 🐾

# CITES ANIMALS COMMITTEE CONSIDERS HOST OF WILDLIFE TRADE ISSUES

**A**WI joined several hundred delegates representing nearly 80 countries and a similar number of observer organizations in Geneva this July for the 33<sup>rd</sup> meeting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Animals Committee (AC33). From trade in big cats, seahorses, stony corals, and tortoises to deliberations over taxonomy, nomenclature, and trade in specimens produced through biotechnology, the committee rendered decisions that will be considered at next year's Standing Committee meeting in February and the all-important 20<sup>th</sup> meeting of the Conference of the Parties to CITES in the fall of 2025. Much of the discussion centered on core processes that are fundamental to CITES implementation.

Animals Committee meetings include a “periodic review” process to evaluate whether the Appendix I and Appendix II listings (triggering certain trade protections) of species are in accordance with their level of imperilment and the threat international trade poses to their survival. At AC33, the committee agreed to add six new species to the process: large Palau flying foxes, Malagasy kestrels (Seychelles population), ground parrots, paradise parrots, Tampico pearly mussels, and northern Chinese argali sheep. In addition, the committee agreed to review the sources and purposes of trade in scarlet macaws, western gorillas, and chimpanzees to ensure that such trade is being managed in compliance with the restrictions imposed under Appendix I (the highest level of protection).





A review of significant trade (RST) process also takes place at these meetings to evaluate whether trade in certain Appendix II-listed species complies with CITES. At AC33, the committee agreed to retain the RST process (i.e., continue the review) for seven taxa and nine countries, including devil rays traded from Sri Lanka; oceanic whitetip sharks from Kenya and Yemen; great hammerhead sharks from Mexico; scalloped hammerhead sharks from Kenya, Mexico, Nicaragua, Sri Lanka, and Yemen; ball pythons from Benin, Ghana, and Togo; Home's hinged-back tortoises from Ghana; and Russian tortoises from Uzbekistan. The nine countries under evaluation could face sanctions if they cannot demonstrate CITES compliance for their trade in these species. Mexico unsuccessfully attempted to extract itself from RST scrutiny regarding its trade in the two hammerhead shark species by agreeing, in each case, to cut its fishing quota in half, while Oman and Senegal (for oceanic whitetip sharks) and China and Oman (for scalloped hammerhead sharks) were removed from the review by agreeing to halt all exports for these species.

A relatively new process is in place to evaluate CITES compliance with respect to trade in reportedly captive-bred animals in order to, among other things, prevent the laundering of wild-caught specimens as captive-bred. At AC33, the committee agreed to retain nine country/species combinations

in the review process: long-tailed macaques traded in large number (primarily for use in biomedical research) from Vietnam, the Philippines, and Cambodia; MacQueen's bustards from Kazakhstan; Greek tortoises from Jordan; Russian tortoises from Uzbekistan; Egyptian tortoises from Syria and Egypt; and green-and-black poison dart frogs, strawberry poison dart frogs, and red-eyed tree frogs from Nicaragua. As with the RST process, countries retained in the captive breeding evaluation process may face sanctions if they cannot demonstrate compliance with CITES.

The committee discussed a new methodology—developed by the University of Oxford in collaboration with the United Nations World Conservation Monitoring Centre and the International Union for Conservation of Nature (IUCN)—that relies on the IUCN Red List of Threatened Species to identify species that merit CITES listings due to imperilment and ongoing or potential effects of international trade on the species. Currently, listing proposals are made by CITES parties without necessarily prioritizing species in the greatest need. An initial analysis published in 2023 in *Nature Ecology & Evolution* identified over 900 species as potential candidates for listing on Appendix I or II.

The committee also discussed a number of CITES workshop reports on marine ornamental fish, amphibians, and songbirds. These reports, combined with the University of Oxford results and other analyses of southeast Asian snakes, freshwater mammals, and croaker fish species in trade (see following page), provide a plethora of species that warrant CITES protection from overexploitation. With such reports now publicly available, it is imperative that CITES parties submit species listing proposals—including proposals for entire genera and taxonomic families—to ensure that robust protections for species in trade constitute a vital component of international efforts to address the biodiversity crisis.



## Grave Concern over Assault on Croakers

AWI is increasingly concerned about the devastating impact of the global trade in swim bladders (maws) from croakers, a family of bony fish whose large, collagen-rich maws are highly sought after in China for their purported traditional medicinal benefits and as a luxury food and status symbol akin to shark fins. International trade in croaker maws is unregulated and poorly documented, with little known about the conservation status of many legally targeted species. It is increasingly clear, however, that strong demand and high

prices, particularly for fish with the largest maws, are driving a “gold rush” on croakers. Typically in such cases, the most valuable species are driven to extinction, whereupon the trade—often orchestrated by organized crime syndicates—moves on to target the next most valuable species.

The trade is wreaking enormous collateral damage on other imperiled species, as well, including dozens of CITES-listed small cetaceans, sharks, rays, and sea turtles who are ensnared and die agonizing deaths as bycatch in croaker fisheries’ nets. An “information document” submitted by the United States to the Animals Committee on the fish maw trade identified 286 species of croakers in trade, with the trade placing 29 of them at a higher risk of extinction. As the International Whaling Commission’s Scientific Committee urged at its meeting in May, we must learn from the near extinction of the vaquita porpoise, the victim of bycatch in the illegal fishery for totoaba (a croaker species) to prevent the same fate befalling other species.

As CITES continues to wrestle with the illegal totoaba trade and its catastrophic impact on the vaquita, AWI—in collaboration with the Center for Biological Diversity, the Environmental Investigation Agency, and the Natural Resources Defense Council—hosted a well-attended side event at AC33 to raise the profile of this issue and call on CITES parties to regulate the croaker trade, including through decisive action at the 20<sup>th</sup> meeting of the Conference of the Parties next year. 🐾



LEUNGCHOPAN

*Dried fish maws at a market. Demand for maws is taking a heavy toll on croakers and other species inadvertently caught in nets set for croaker.*



## PROTECTING PRAIRIE DOGS FROM PLAGUE

The diminutive prairie dog plays an outsized role in the prairie ecosystem. As vital prey for some species and habitat creators for others through their complex system of burrows, they support approximately 150 other species, including endangered black-footed ferrets, burrowing owls, prairie rattlesnakes, horned larks, ferruginous hawks, and bobcats. Ecosystem services provided by prairie dogs include recharging groundwater, aerating soil, sequestering carbon, cycling nutrients, spreading seeds, preventing desertification, and creating fire breaks.

Prairie dog “towns” are divided into neighborhoods, with families maintaining a tight-knit structure and close community ties. Prairie dogs collaborate on collecting food, groom each other, and are often observed affectionately hugging and playing. They also have what is believed by many to be the most sophisticated language system of all nonhuman animals.

Despite their important role, populations of the five prairie dog species have declined by around 95 percent—with two listed under the Endangered Species Act—due to a variety of threats, including habitat destruction and eradication efforts through shooting and poisoning campaigns. Sylvatic plague (introduced to North America around 1900) also poses a grave danger to these animals, with up to 98 percent mortality in affected colonies.

AWI is partnering with the Humane Society of the United States on emergency disease mitigation in South Dakota’s Conata Basin, home to the world’s largest remaining colony of black-tailed prairie dogs. Earlier



PATRICK

this year, plague resurfaced in this population after a 20-year absence, with devastating effects. AWI is supporting the HSUS’s deployment of the best solution available—a prophylactic to control fleas that transmit the disease. This effort will save the lives of over 200,000 prairie dogs plus the myriad associated animals who rely on them.

## PAINTED WOOLLY BATS: DYING FOR DECOR

In their native Southeast Asia, painted woolly bats often gather in pairs or small groups, roosting in tree hollows and on the underside of suspended bird nests, leaves, and eaves of buildings. Because of their vivid black and orange markings, however, they are frequently taken from the wild, killed, and sold online for decorative purposes.

To provide a clearer picture of this trade, AWI funded a study of global online sales of painted woolly bats (Coleman et al., *European Journal of Wildlife Research*, 2024). The study authors searched for listings of these

bats on Amazon, eBay, and Etsy over a 12-week period. They detected 856 unique listings for various species of bats, 86 percent of them on Etsy. Most were of mounted and framed bats, and fully one-quarter of them were for painted woolly bats. The United States was the primary location of both sellers and buyers.

The authors raised concerns about the unknown ecological impacts of the trade. They concluded that it is likely being conducted illegally, unethically, and unsustainably in the bats’ home countries, and may pose a biosecurity risk. Currently, although the species is classified as “near threatened” by the International Union for Conservation of Nature, no protections exist for painted woolly bats in the United States and other importing countries, and they are not protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). AWI is working with the study authors to press for a CITES Appendix II listing for the species, which would trigger certain international trade protections.

# USING FECAL SAMPLES TO NONINVASIVELY STUDY WOLVES

by Samuel Hervey, Michigan Technological University

Noninvasive genetic tools are commonly used in conservation programs because they help practitioners address practical questions—such as estimating population size and reconstructing ancestries—without having to use stressful capture methods. Wolves across North America have benefited substantially from the use of noninvasive genetic methods, and the insights provided have helped wildlife managers make the best-informed decisions regarding population persistence.

Using funds from an AWI Christine Stevens Wildlife Award, we developed new, noninvasive genetic panels to monitor two wolf populations—the gray wolves (*Canis lupus*) of Isle Royale National Park and red wolves (*Canis rufus*), a species formerly spread throughout the southeastern United States.

By 2018, the Isle Royale wolves had become functionally extinct due to inbreeding, with only two wolves remaining, unable to produce viable young. To address this, 20 wolves were reintroduced to the island, with noninvasive monitoring used to track inbreeding and reproduction.

Red wolves were declared extinct in the wild in 1980. In 1987, a small number of red wolves were reintroduced into the wild in North Carolina from a population under human care. Given the very small founding population, they are similarly threatened by inbreeding, and are additionally impacted by hybridization with coyotes.

Both populations benefitted from the use of noninvasive microsatellite genotyping in the past, but now, new sequencing methods present a more reliable genotyping method. We sought to design a novel noninvasive genotyping method that uses single nucleotide polymorphisms (SNPs)—genetic variants found throughout the genome—from collected feces to study both wolf populations. SNPs are more easily genotyped in ways that allow different labs to objectively compare results. Because SNPs are found throughout the genome, we can select just the few hundred of them (an “SNP panel”) that are most informative toward our questions of interest.

For Isle Royale wolves, we have used SNP panels to identify individuals, differentiate canids, and reconstruct pedigrees. What is most exciting is that nearly half the population has been identified noninvasively through scat, hair, and urine samples, and many wolves have been genetically “re-captured” on multiple occasions, allowing us to track them through time. As the Isle Royale wolf population continues to breed, our noninvasive genetic tool will ensure effective, real-time assessment of inbreeding and track when future conservation action may be warranted to avoid the fate of the previous population.

We are using our red wolf ancestry panel to track the persistence of red wolf genetics across portions of their historic range along the Gulf Coast of Louisiana and Texas. Previous findings demonstrated that coyotes in this region have red wolf ancestry. Our noninvasive sampling will identify where red wolf genetics exist and the habitats associated with red wolf ancestry, which can help us manage and conserve these features moving forward. We collected scat on Galveston Island, Texas, and confirmed many coyotes contained greater than 10 percent red wolf ancestry. Further, the Galveston Island population does not appear to suffer from inbreeding, something in direct contrast to the wolves of Isle Royale. 🐾



# STOP WINDOW STRIKES:

## Helping Birds Bypass the Glass

As juvenile birds fledge the nest, and hundreds of species of birds begin their annual migration to their winter habitats, this time of year presents the perfect opportunity to start protecting birds from one of the deadliest threats they face: windows strikes. Many of us have heard the sickening thud of a bird hitting a window. According to a recent estimate, at least 1.3 to 3.5 billion birds are killed in the United States each year due to collisions with window glass (Klem et al., *The Wilson Journal of Ornithology*, 2024). Even when birds fly away from such a collision, they often die later from concussions, internal bleeding, or other physical trauma. Almost half of these deaths occur from birds hitting windows in residential homes.

Window strikes occur both day and night. Daytime collisions occur when birds see the reflection of sky or outdoor foliage in windows and believe this reflection is additional habitat. Nighttime collisions occur when nocturnal migrants are drawn to lights inside the home, pulling them off their migratory path. In both instances, birds fail to perceive the window as a solid barrier, often flying into panes at their normal cruising speed of 20–30 mph (or more if a predator is in pursuit).

Fortunately, there are simple, cost-effective measures to reduce the chances of birds striking your home's windows. Start by identifying danger zones, such as large picture windows, windows at right angles to each other, and windows near bird feeders. Examine your windows by going outside to see if vegetation or the sky is reflected in the panes. If so, that presents a danger that should be mitigated. Below are a number of techniques to help keep birds safely on the wing:

→ Tapes: Form patterns of dots or stripes with easy-to-apply tapes affixed vertically or horizontally, no more than 2 inches apart.

- Acopian BirdSavers (Zen Wind Curtains): Favored by the Cornell Lab of Ornithology, these are made of vertical nylon cords hung on the outside of windows.
- Decals: Place decals uniformly 2 inches apart across the entire outside window surface.
- Tempera paint: Apply freehand or with stencils on the outside of windows, making patterns with spaces no more than 2 inches apart.
- Screens: Installing mosquito screens on the outside of the window is effective, as long as the screen covers the entire window.
- Opaque and patterned film: These make windows appear opaque from the outside, while still allowing those inside to see out.

The following websites offer detailed information on these options, as well as links to vendors:

- American Bird Conservancy  
[abcbirds.org/solutions/prevent-home-collisions](https://abcbirds.org/solutions/prevent-home-collisions)
- National Audubon Society  
[audubon.org/news/reducing-collisions-glass](https://audubon.org/news/reducing-collisions-glass)
- Fatal Light Awareness Project  
[flap.org/stop-birds-from-hitting-windows](https://flap.org/stop-birds-from-hitting-windows)

External shutters, external sun shades or awnings, or internal vertical blinds kept half open are more costly options, but may also reduce energy costs. Most of these methods work equally well for commercial buildings.

Since 1970, North American wild bird populations have declined by nearly 30 percent. Reversing this troubling trend will involve preserving habitat and reducing human-caused mortality. Protecting our feathered friends from fatal window strikes is essential to that effort. 🐾

TJ (pictured) is a 35-year-old resident of Chimp Haven, a sanctuary constructed to house chimpanzees retired from research. The NIH has left 26 such chimps behind at a former research facility.

## NIH KEEPS CHIMPS IN LIMBO AT ALAMOGORDO

The Chimpanzee Health, Improvement, Maintenance and Protection (CHIMP) Act requires all federally owned chimpanzees retired from research to be moved to a federally operated sanctuary, such as Chimp Haven, near Shreveport, Louisiana. Despite this, 26 such chimpanzees remain behind at the National Institutes of Health's Alamogordo Primate Facility (APF) in New Mexico.

The NIH refuses to relocate these last 26 under the pretext that they are too fragile. In 2022, a federal court ruled this refusal to be unlawful. The NIH filed an appeal, but withdrew it in March 2024. And yet, the agency was quoted the following month in the *Santa Fe New Mexican* to say it still has “no imminent plan” to move them. In its 2022 ruling, the court stated in a footnote that the parties had agreed the “NIH is not obligated to transfer a ‘moribund’ chimpanzee.” As discussed in the *New York Times*, most understand the term “moribund” to mean “near death,” but the NIH defines it as experiencing “life-threatening, systemic disease that poses a constant threat and could result in abrupt death.” It relies on this alternate definition to justify its unwillingness to move chimpanzees with certain chronic diseases, even if they may live for many more years.

In an apparent conflict of interest, the determination that the chimpanzees are not fit for relocation was made by a



CHIMP HAVEN

veterinarian working for Charles River Laboratories (CRL)—the very company being paid to care for them at the APF. Because these chimpanzees are the only remaining animals at the APF, moving them to a sanctuary would presumably shutter the facility and result in CRL losing a lucrative and longstanding contract.

A panel of NIH veterinarians corroborated the CRL veterinarian's determination, but its review was based on documents supplied by the facility; the panel did not examine any of the chimpanzees in person. The following year, two independent evaluations—one by an outside primatologist and another by a longtime primate veterinarian who did visit the chimpanzees—disputed the NIH's conclusion; they concluded instead that transfer to a sanctuary would likely benefit the animals significantly. Adding insult to injury, the cost to taxpayers of caring for these chimpanzees at the APF is nearly 2.5 times greater than it would be at Chimp Haven.

## APPLICATIONS OPEN FOR REFINEMENT FUNDING

Through October 11, 2024, AWI is accepting applications for the long-standing Refinement Research Award and the newer Implementing Refinement Grant. These annual funding opportunities are open to applicants based in the United States or Canada. The Refinement Research Award offers up to US\$15,000 toward research projects that develop or test innovative methods of refinement to the care, husbandry, or housing of animals in experimentation. The Implementing Refinement Grant offers up to US\$8,000 toward the purchase of equipment or training of staff for the purpose of implementing refinements known to improve the welfare of animals in experimentation. Visit AWI's website to learn more and apply: [awionline.org/research-award](https://awionline.org/research-award) and [awionline.org/implementation-grant](https://awionline.org/implementation-grant).

## ENVIGO PLEA DEAL SETS RECORD

Biomedical company Envigo made headlines in 2022 for atrocious conditions documented at its Virginia beagle-breeding facility, accumulating over 60 citations for noncompliance with the Animal Welfare Act (AWA) within one year. (See *AWI Quarterly*, fall 2022.) During that year, the US Department of Agriculture failed to confiscate a single animal or issue a single fine. Finally, in June, following a Department of Justice investigation, Envigo RMS LLC pleaded guilty to conspiring to violate the AWA, and sister company Envigo Global Services pleaded guilty to conspiring to violate the Clean Water Act. Their parent company, Inotiv, guaranteed payment of a record \$35 million in penalties, including \$11 million for conspiring to violate the AWA. This is the largest fine ever secured in an AWA case, but it is still a fraction of the potential fine for AWA violations of this magnitude (\$10,000 per violation, per animal, per day of offense) that the USDA could have imposed through its enforcement efforts, and it amounts to less than 1.3 percent of Inotiv's reported assets last year. Per

the plea agreement, all Inotiv entities are barred from breeding or selling dogs, but the company retains the right to possess and experiment on dogs over 3 months old and keeps its license to breed and sell other species, including nonhuman primates and rabbits.

## MACAQUES MAINTAIN RED LIST "ENDANGERED" STATUS FOR NOW

In June, a committee of the International Union for Conservation of Nature (IUCN) announced that long-tailed macaques (LTMs) will continue to be classified as "endangered" on the IUCN Red List of Threatened Species while the organization awaits a revised scientific assessment. LTMs were listed as endangered in March 2022 based on a scientific assessment that predicted at least a 50 percent decline in the population over the next 40 years, due in part to accelerating demand from the biomedical industry.

Red List designations influence species protections established under the Convention on International Trade in

Endangered Species of Wild Fauna and Flora (CITES); thus, the US biomedical industry likely views an endangered designation as a threat to its lucrative LTM import pipeline. (See *AWI Quarterly*, fall 2023.) In September 2023, the National Association for Biomedical Research (NABR)—an animal research industry lobbying group—filed a formal petition with the IUCN challenging the endangered designation, stating that the IUCN "did not reach objective scientific conclusions" regarding LTMs' population status.

After reviewing NABR's petition, the IUCN committee found that "there appears to be adequate evidence to support the current EN [endangered] listing." However, it took issue with some of the calculations, data interpretation, and language used in the 2022 scientific assessment. Consequently, the committee requested that the original assessors submit a revised assessment within eight months that addresses those concerns and incorporates scientific information that has become available since the 2022 assessment.

The most recent scientific information will likely only corroborate the initial conclusion that the LTM population is indeed in steep decline. One recent study—the first to compare population dynamics across multiple countries and regions—estimated that the LTM population has already declined by at least 80 percent over the past 35 years, adding sobering context to the outlook for decline going forward.

*Long-tailed macaques are classified as "endangered" on the IUCN Red List, in large part because of growing demand from the biomedical industry for these animals for use in research.*



SOMPAC

# Compressed Newspaper as Safe and Suitable Substrate for Naked Mole-rats

by Jouvay Pantophlet

Our project, supported by an AWI Refinement Research Award, focused on evaluating the safety of using compressed waste newspaper as a digging and enrichment substrate for naked mole-rats. These unique fossorial rodents, equipped with ever-growing incisors, create intricate burrows in substrates ranging from sand to hard clay and rock. However, in laboratory facilities, they are often housed on loose cob or chip bedding, creating a mismatch between their natural adaptation and the provided environment. This discrepancy prompted us to explore alternative materials to bridge this gap. Preliminary investigations involved processing newspapers into pulp and shaping them into large columns of compressed newspaper that our naked mole-rats excavated into spiraling tunnels, offering them the choice and control over engineering their own living space.

With the proof of concept established, we wished to assess any potential risks the compressed newspaper might pose to the animals. Samples were collected both before and after a 14-day exposure to naked mole-rats and sent for microbial analysis. Samples included cob (as a control) and blocks of compressed paper in four distinct treatment groups: soaked in reverse osmosis water for two hours (untreated); soaked in bleach for two hours and then rinsed; boiled in reverse osmosis water for two hours; and boiled in a 3 percent NaCl solution for two hours and then rinsed. The analysis found no significant difference in the abundance of bacteria or fungi across the four treatment groups. Furthermore, there were no unique bacterial species in the untreated newspaper that were not present in the unused cob samples; as such, the untreated newspaper isn't introducing any pathogenic entities that the animals aren't already exposed to.

To investigate nonliving contaminants, such as heavy metals that may be introduced into the colonies via the newspaper, we also tested samples of newspaper, cob, and



Top: Pressed blocks of pulped newspaper; bottom: naked mole-rats tunneling through columns of pressed paper

reverse osmosis water. This analysis revealed that cob had higher concentrations of copper, magnesium, phosphorus, potassium, sodium, sulfate, and zinc compared to paper, while paper displayed higher levels of sodium than cob. Aluminum and boron were exclusively detected in newspaper, but both were well below levels for concern for traditional laboratory rodents; however, whether naked mole-rats are particularly sensitive to these elements warrants further testing.

We have yet to find any major elements that would be cause for concern in moving forward with using compressed newspaper as a substrate. Compressed newspaper appears to be a safe and sustainable alternative to traditional bedding substrate for naked mole-rats and no more of a risk than using conventional cob bedding. 🐾

Jouvay Pantophlet is a registered laboratory animal technician at the College of Staten Island

# Improving the Welfare of Captive Marmosets Using Visual Barriers

by Alexander Greig

The common marmoset (*Callithrix jacchus*) is increasingly becoming a key species in behavioral and biomedical research. Because of this, research focused on improving the behavioral and physiological welfare of this species is critical to housing this species in laboratories successfully. Agonistic behaviors between groups of common marmosets are well documented in both field and laboratory conditions. Interactions between groups of wild common marmosets often result in contact aggression. Captive marmosets display increased agonistic intergroup behaviors such as anogenital displays and piloerection during periods of higher levels of vocalizations from neighboring groups.

Numerous studies have documented how the social environment that marmosets are exposed to can affect glucocorticoid responses to external stimuli. This led us to hypothesize that limiting visual access to neighboring pairs would decrease social agonistic behaviors, leading to increased behavioral indicators of positive welfare and decreased glucocorticoid levels.

This study, which was supported by an AWI Refinement Research Award, was conducted at the Southwest National Primate Research Center on eight breeding pairs of common marmosets between 2 and 7 years of age. The animals were exposed to three conditions in an ABA-style experiment (i.e., comparing baseline, treatment, and return to baseline within each group), with each phase lasting three weeks. The animals were completely removed from visual contact with neighboring groups for three weeks during the treatment phase, using either folding room partitions or white polyester curtains suspended from tension rods (see below).

Behavioral observations were conducted using video data in 10-minute sessions chosen randomly between the morning and afternoons for the first two weeks of each phase of the experiment. Proximity, social behaviors, and scent marking were recorded using the ZooMonitor app (Lincoln Park Zoo, 2020). Locomotion was scored by hand using instantaneous focal sampling with 15-second intervals, alternating between individuals for each session. The first defecation of the day was collected every weekday for three weeks in each condition.

We discovered that when the visual barriers were in place, animals spent more time allogrooming ( $p=0.004$ ), less time apart ( $p<0.006$ ), and less time in locomotion ( $p<0.001$ ). They also had fewer occurrences of scent marking ( $p=0.031$ ). However, fecal cortisol levels were elevated ( $p<0.001$ ) during this time, compared to both baseline and post-experimental levels.

These results indicate that restricting visual access between neighboring pairs of marmosets improves multiple behavioral indices of positive welfare, as hypothesized. Paradoxically, restricting visual access was associated with increased levels of cortisol. One explanation may be that while social stressors were removed, resulting in increased behavioral indicators of positive welfare, the introduction of the curtains may have been an environmental stressor, leading to increased cortisol concentrations. This may indicate that while removing social stressors is important, stability in the home environment is equally, if not more, consequential physiologically. A follow-up study in which marmosets are gradually habituated to the curtains or partitions may help confirm whether visual barriers improve the overall welfare of captive marmosets. 🐾

*Alexander Greig is a behaviorist at the Southwest National Primate Research Center at Texas Biomedical Research Institute*



# AWI Initiative Makes Animal Cruelty Data Readily Available to Researchers

AWI's new Center for the Study of NIBRS Animal Cruelty Data (the Center) provides easy access to a wealth of information on animal cruelty crimes derived from the Federal Bureau of Investigation's National Incident-Based Reporting System (NIBRS). AWI staff members led the 12-year effort to convince the FBI, in 2014, to include animal cruelty as a distinct crime category within NIBRS. Previously, animal cruelty incidents were consigned to the "miscellaneous crimes" category, making them virtually impossible to track and analyze.

The addition of an animal cruelty crimes category to NIBRS was a major breakthrough. Once that had been accomplished, however, AWI recognized the further need to facilitate and promote the use of this data by researchers, policymakers, and animal advocates to better understand animal cruelty crimes and thereby inform intervention and prevention efforts. We set out, therefore, to gather the data and present it in a readily accessible and analyzable format.

The reporting of animal cruelty crimes to NIBRS began in 2016. Animal cruelty data from 2016 to 2022 is now available on the Center's website as SPSS and Excel files, formats typically used by researchers. NIBRS animal cruelty data is released annually; data from 2023 and beyond will be posted as it becomes available.

A number of studies analyzing NIBRS animal cruelty data have already been published in professional journals, but analysis of animal cruelty data is not simply an academic exercise. Animal cruelty is also associated with other criminal

behavior. As Dr. Mary Lou Randour, the Center's coordinating consultant, explains: "The systematic analysis of animal cruelty crimes can lead to more effective interventions and encourage law enforcement to pay better attention to animal cruelty crimes. Our goal is to help both relevant professionals and the general public understand how these crimes impact not only the welfare of animals, but also the communities in which they live." In addition to Mary Lou, Center personnel include Claire Coughlin, director of AWI's Companion Animal Program, and Dr. Lynn Addington, a professor of justice, law, and criminology at American University.

A seven-member advisory board of researchers, law enforcement officials, and subject matter experts also helps guide the Center's work and advance its mission. Advisory board member Keon Turner stated, "As past president of the Association of State Uniform Crime Reporting Programs, I am keenly aware of the importance of obtaining quality crime data. I am committed, along with my fellow advisory board members, to helping the Center promote awareness of the animal cruelty data available in NIBRS and to encouraging law enforcement to use the knowledge gained by analyzing this data to inform interventions and policies." Read on to learn more about Keon and the rest of the Center's distinguished advisory board. 🐾



## Dr. Bethany L. Backes

is an associate professor in the Violence Against Women Faculty Cluster at the University of Central Florida and holds a joint appointment in the School of Social Work. She has over 20 years of combined experience in

direct services, research, and policy on gender-based violence. Her areas of scholarship broadly encompass research and evaluation on gender-based violence, including formal and



informal help-seeking trajectories, secondary and tertiary violence prevention strategies, and criminal justice, health, and community-based interventions for intimate partner, sexual, and stalking violence.

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**Dr. Maya Gupta** is senior director of research at the American Society for the Prevention of Cruelty to Animals. Her primary areas of expertise are in connections between animal cruelty and interpersonal violence, the psychology of animal

cruelty, and program development and evaluation. More broadly, her interests extend to the application of social science and human service approaches to promoting animal welfare and improving human-animal relationships overall.

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**Dr. Brinda India Jegatheesan** is an associate professor of learning sciences and human development, early childhood and family studies, and anthrozoology at the University of Washington. She serves on the board

of directors for the International Society for Anthrozoology and on the editorial board for the Human-Animal Bond Research Initiative Foundation. In her research, she focuses on One Health/One Welfare approaches (involving human-animal interconnections), bioethics in animal-assisted interventions, and the role animals play in the psychological well-being of children.

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**Dr. Nathan H. Perkins** is an associate professor in the School of Social Work at Loyola University Chicago. His professional and research interests include physical and emotional sibling violence, as well as sibling violence and its intersection with

family violence, interpersonal violence, and other types of violence. He also explores parental perceptions of physical

and emotional sibling violence and the lack of policy that exists to address this form of family violence.

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**Keon Turner** is the Data Analysis and Reporting Team (DART) manager for the Virginia Department of State Police and the past president of the Association of State Uniform Crime Reporting Programs. She has over a decade of experience with

the collection, training, qualitative review, and dissemination of NIBRS data for the Commonwealth of Virginia. In addition to NIBRS data, the DART section she manages collects data related to the use of force, community policing, and photo speed monitoring.

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**Dr. Michael Vaughn** is a William and Helen Reichmann Research Professor in the School of Social Work at Saint Louis University. He also serves as the associate dean of research and director of the university's PhD program in social work. He has

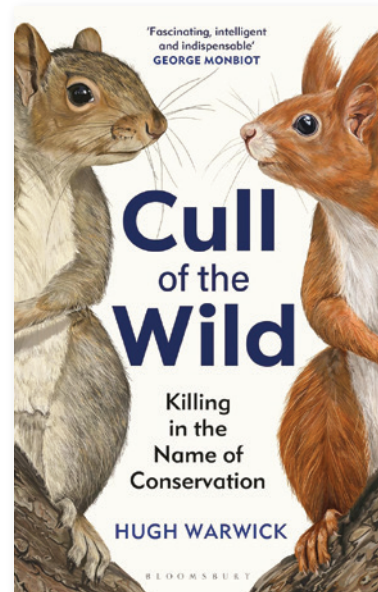
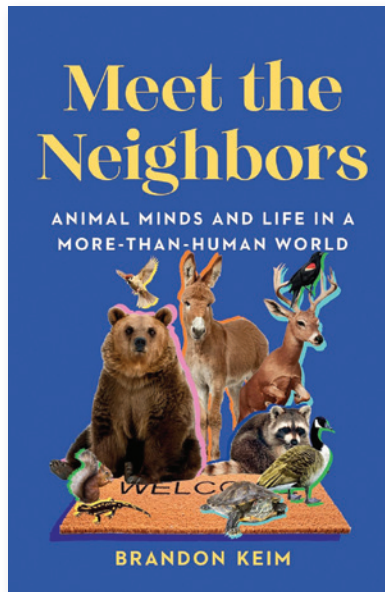
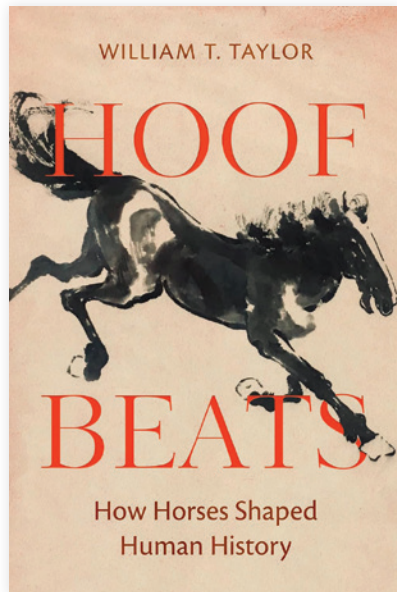
published widely on topics related to violence, drug abuse, and antisocial behavior, including the association between these phenomena and cruelty to animals.

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**Michelle Welch** is a senior assistant attorney general and director of the Animal Law Unit for the Office of the Attorney General of the Commonwealth of Virginia. She is charged with addressing all animal law questions in Virginia and is called on by agencies

all over the commonwealth to act as a special prosecutor in animal cruelty, animal fighting, and wildlife trafficking cases. She frequently advises local law enforcement authorities and prosecutors throughout Virginia, as well as across the nation and internationally, on issues related to the prosecution of animal cruelty crimes.



## HOOF BEATS

William T. Taylor / University of California Press / 360 pages

Even an ardent equine enthusiast will likely come away with a new appreciation for the horse after reading *Hoof Beats: How Horses Shaped Human History*. Ambitious in scope, the book examines humanity's close relationship with horses across the globe since the dawn of civilization. Author William T. Taylor, assistant professor and curator of archaeology at the University of Colorado Boulder, conducts a rigorous analysis of archaeological data to illustrate how a number of ancient cultures used horses to their advantage. Striking images of archaeological excavations and sites—an enormous ancient horse-and-chariot burial pit in China and hoof petroglyphs in Mongolia, for example—help illustrate horses' outsized impact on our collective psyche.

The result is a sweeping account of how “in barely four millennia, horses had gone from a dwindling Ice Age mammal facing down extinction to a thriving domesticated flourishing alongside humans on nearly every large landmass on earth” and in a range of environments—from frigid northern climates to harsh, arid deserts. Their return and spread across the Great Plains of the “New World” from which they originated is itself a remarkable account of adaptation.

*Hoof Beats* also outlines the various reasons why other members of the Equidae family did not prove as well-suited for domestication. As Taylor notes, an “ornery zebra named Dan given to President Theodore Roosevelt ... kickstarted an ill-fated government breeding program seeking to produce a zebra with a manageable temperament.”

The human-horse story is undoubtedly complex and certainly far from a purely benign or symbiotic relationship. Perhaps nowhere is this more evident than in some of the spiritual elements depicted; a recurring theme involves burials in which horses were sacrificed and placed alongside an array of goods with the dead. Taylor carefully traces advances in equipment and tack (saddles, stirrups, bits, reins, girth, etc.) that facilitated our reliance on horses—again, not always in a benign manner for the horse, as when pathological bone formations resulted from equipment used to exert control over the animal.

We typically think of mechanization and industrialization as spelling the end of our reliance on literal horsepower, yet the admittedly dramatic change was hardly as straightforward or abrupt as flipping a switch. Taylor reminds us of all the ways

in which horses propelled this transition (e.g., “horseboat” ferries with paddlewheels powered by equines, and the heavy burden placed on horses in mining operations and other extractive industries).

*Hoof Beats*’ melding of archeology, paleontology, anthropology, genetics, and history—including, importantly, indigenous perspectives—ultimately provides more than an assessment of *Equus caballus* and its place in history; it underscores the extent to which our modern world simply would not exist as we know it without the lasting bond between human and horse.

**MEET THE NEIGHBORS**

Brandon Keim / W. W. Norton & Company / 368 pages

*Meet the Neighbors: Animal Minds and Life in a More-than-Human World* is an exploration of animal cognition, intelligence, and social systems, challenging the often-arbitrary line that separates humans from animals. Readers are invited into a well-balanced discussion of how we can better understand and coexist with our animal neighbors.

Using a combination of scientific studies, historical documents, philosophical papers, and rich anecdotes, author Brandon Keim demonstrates how our attitudes toward animals have been shaped by harmful rhetoric and excessively clinical language. In fact, animals experience friendship, romance, pain, grief, and countless other states widely believed to be unique to humans (e.g., geese mourn their partners, honeybees engage in deliberative democracy, and rats reflect on the past). Keim makes it clear that these are more than just fun facts; by deepening our knowledge of animals’ interior lives, we can better understand our responsibilities to them. The author asks: Should we only reduce suffering inflicted by humans, or try to bioengineer nature itself into a kinder home for animals? Are we justified in culling nonnative species when their impact on ecology is murky?

Keim observes that animals are paying the price for climate change, urbanization, consumerism, and other aspects of

our changing world, and implores animal advocates and traditional conservationists to find common ground in seeking solutions. Although this field of research is still relatively young, the author supports taking these “insights out of scientific journals and into our everyday world.”

**CULL OF THE WILD**

Hugh Warwick / Bloomsbury Wildlife / 304 pages

Hugh Warwick, a British ecologist, has spent decades studying his favorite species, the hedgehog. In his fourth book, *Cull of the Wild: Killing in the Name of Conservation*, Warwick shifts his focus to examine the complex and controversial practice of culling invasive species to save native species in the United Kingdom.

Warwick’s investigative approach incorporates diverse perspectives from fellow conservationists. His writing style is engaging and deeply personal. The book is structured around a series of interviews with conservationists who attempt to justify the necessity and effectiveness of culling nonnative species such as gray squirrels and American mink—even hedgehogs in places where they are not native, such as Scotland’s Outer Hebrides islands. Both successful and futile conservation efforts are discussed, though the interviewees favor a utilitarian perspective. They argue that mass culling, albeit unpleasant, is necessary for maintaining ecosystem integrity and reversing “our ancestors’ mistakes.” At the same time, Warwick and his colleagues acknowledge that animals culled are unfairly punished for circumstances beyond their control.

In subsequent chapters, Warwick directly addresses the moral quandaries involved in culling, ultimately advocating a more nuanced approach to conservation. His final insight—“we need to jettison the simplistic and the binary and be willing to think better”—encapsulates the book’s central message: Conservation requires complex, compassionate solutions.

BEQUESTS

If you would like to help assure AWI’s future through a provision in your will, this general form of bequest is suggested: *I give, devise and bequeath to the Animal Welfare Institute, located in Washington, DC, the sum of \$ \_\_\_\_\_ and/or (specifically described property).*

Donations to AWI, a not-for-profit corporation exempt under Internal Revenue Code Section 501(c)(3), are tax-deductible. We welcome any inquiries you may have. In cases in which you have specific wishes about the disposition of your bequest, we suggest you discuss such provisions with your attorney.



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## SEMINAR EXAMINES GLOBAL IMPACTS OF ANIMAL LAW

In July, Caroline Griffin, vice chair of AWI's board of directors, and Robin Jacobsohn, AWI's general counsel, participated in the inaugural International Animal Law Commission Seminar, hosted by the International Association of Lawyers. This two-day event brought together lawyers from around the world and from every discipline to chart a common path forward for international animal law. Participants discussed animal law's impacts on various sectors and how application of a business model to law and policy initiatives could help achieve measurable progress.

Caroline moderated a panel with Robin, Prof. David Favre of Michigan State University College of Law, and Jim Karani, general counsel for Lawyers for Animal Protection in Africa, addressing the challenges of combatting wildlife trafficking. Wildlife poaching has had catastrophic effects on numerous species, such as African elephants targeted for their tusks and several rhino species targeted for their horns. The panel discussed the need for more global, collaborative efforts that seek solutions based on the United Nations' "One Health"

approach that recognizes the interconnectedness of harms to the environment, animals, and humans.

As to legal international trade, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) places restrictions on trade of vulnerable species, with mixed success. One such species, the long-tailed macaque, is designated as "endangered" on the IUCN Red List in light of growing demand by the biotech industry for these animals for use as pharmaceutical test subjects. (See page 21.) Wild populations have dropped by an alarming 80 percent over the past 35 years, and wild macaques have allegedly been laundered as "captive born" to evade trade restrictions. Greater protections are clearly needed.

Josphat Ngunyo, founder of Africa Network for Animal Welfare, thanked AWI in his remarks for collaborations that have produced real and effective change. Overall, the seminar underscored the need for more unifying efforts to create a more comprehensive and compassionate system of protections. 🐾